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AUTHOR	Harbison, Frederick
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ABSTRACT

Nonformal education, though unsystematized, is of at least equal importance with formal schooling in developing countries. Nonformal education can be classified as follows: (1) activities oriented primarily to development of the employed manpower; (2) activities designed to facilitate access to employment; and (3) activities not specifically related to labor force participation. Their contribution to national development is far-reaching. In some cases, non-formal education is the only practical means of skill and knowledge development; in others, it offers an alternative, and often a more effective one, to education and training than formal schooling; in most cases, it can supplement, extend, and improve the processes of formal education. The formulation of a strategy for development of non-formal education is no easy task. An initial step would be to identify the principal target groups, to specify the actual and possible roles of both formal and non-formal education in their development, to evaluate alternatives, and to select "leverage points" where more concentrated efforts would have the highest payoffs. The costeffectiveness of these efforts should be objectively analyzed by systematic tracing of the employment and career pathways of persons who have participated in the various programs.
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NATIONAL DEVELOPMENT AND NON-FORMAL EDUCATION

A Paper Prepared for the
Seminar on Non-Formal Education
conducted by the Southeast Asia
Development Assistance Group

May 13-14, 1971

by

Frederick Harbison

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Human resource development is concerned with two systems of skill and knowledge generation: formal schooling and non-formal education and training. In most countries formal education connotes age-specific, full-time classroom attendance in a linear graded system geared to certificates, diplomas, degrees, or other formal credentials. Formal education is thus easily defined -- its administration and control in most developing countries is lodged in a ministry of education; its costs are measurable; and its outputs are easily identified. In contrast, non-formal education, which is probably best defined as skill and knowledge generation which takes place outside the formal schooling system, is a heterogeneous conglomeration of unstandardized and seemingly unrelated activities aimed at a wide variety of goals. Non-formal education is the responsibility of no single ministry; its administration and control are widely diffused throughout the private as well as the public sectors; and its costs, inputs, and outputs are not readily measurable. Non-formal education is perhaps one of the most "unsystematic" of all systems, yet in most developing countries its role in generating skills, influencing attitudes, and molding values is of equal, if not greater, importance than formal schooling. Indeed, perhaps most of man's development takes place routinely and often unconsciously through learning-by-doing, being instructed or inspired by others to perform specific tasks through association and communication with others or simply by participation in a community or in a working environment.

Non-formal education may be classified under three broad categories: 1) activities oriented primarily to development of the skill and knowledge of members of the labor force who are already employed; 2) activities designed primarily to prepare persons, mostly youth, for entry into employment; and 3) activities designed to develop skill, knowledge, and understanding which transcend the work world. These three categories may be illustrated by examples:

1. The category of programs for development of employed manpower would include such activities as these: agricultural extension, farmer training centers, rural community development services, on-the-job training of

craftsmen in all kinds of construction, in-service training in manufacturing and commercial enterprises as well as government agencies, labor education conducted by trade unions, apprenticeship arrangements, and most "learning-by-doing" activity in trade, marketing, cooperatives, and social and political organizations. Here the training may take the form of learning by trial and error, acquiring experience by intermittent or casual instruction, organized training classes, or systematic task rotation.

2. Activities designed to facilitate access to employment would include youth brigades, village polytechnics, mobile training units, counseling, vocational training in the military, and other programs to build skills for entry-level jobs. These activities may be alternatives for, or extensions of formal education in primary, secondary, or vocational schools.

3. Activities not specifically related to labor force participation would include adult literacy programs, nutrition and health clinics, homemaking classes, family planning, and a wide range of political education schemes. In this category we would also include radio programs, newspapers, speeches, discussions, and day-to-day palaver from which we learn and acquire information.

The activities listed above are illustrative rather than definitive. Some are obviously relevant for all three functions of preparation for employment, development-in-employment, and building of skills and knowledge not directly connected with the working world. Farmer training centers, village polytechnics, and adult literacy programs are perhaps cases in point. But, in the aggregate, the skill and knowledge generating capacity of non-formal education is enormous. Without such activities, the production of goods and services would grind to a halt and the resources devoted to non-formal education, in time, energy, and other outlays are extensive.

The arguments for greater emphasis on non-formal education in development policy are cogent and compelling:

First, the formal schooling system is becoming prohibitively expensive. High rates of population increase are swelling the school-age population. The laudable desire to up-grade the qualifications of teachers and to improve the quality of education by lowering student-to-teacher ratios leads to sharp increases in per-pupil expenditures. The pressure for expansion of the more

expensive formal education at the secondary, vocational, and higher levels magnifies further increases in costs. Non-formal education may offer, in many areas, a less costly and more attainable alternative.

Second, at least for the next two or three decades, very large proportions of the school-age population in many countries will have little or no access to any kind of formal schooling. This, is, of course, in addition to the vast majority of adults presently without schooling. If one of the goals of modernization is to make every individual a "learning-station," then non-formal education may be the only means of filling the gap between the "schooled" and "unschooled" population.

Third, non-formal education may be one means of counterbalancing some of the distortion created by formal education. To a considerable extent, formal education establishes the gateways to positions of wealth. status, and power. It issues entry passes in the form of certificates, diplomas, and degrees to a privileged minority; it blocks access by those without the proper credentials. But competence and learning are very often poorly measured by credentials. Achievement-oriented, non-formal education may provide the means for growing numbers of competent but "uncredentialed" people to reform the requirements for entry.

Fourth, in part because of its heterogeneity, disorganization, and lack of central direction and control, non-formal education affords greater opportunity for innovation than the often encrusted formal education establishment. This may have strong appeal both to the dispensers of external aid as well as to local statesmen who become impatient in their attempt to reform educational systems.

Finally, one may argue that without non-formal education the benefits of formal schooling will not be fully realized. Education, indeed, is a continuous life-time process. Skills and knowledge generated in the formal schooling process may atrophy without the stimulation, extension, and enrichment provided by post-school, non-formal educational activity. In short, the continuation of human skill and knowledge generation over a life-time may be one of the best ways of maximizing the returns on initial investment in formal schooling.

In theory it would be desirable for every country to make a complete

inventory of all non-formal education, to evaluate the usefulness of each separate activity, to plan extension and improvement of the most promising programs, to estimate their costs and benefits, and above all to build a strategy for integration into a more logically consistent and better functioning system of the motley assortment of unrelated activities. Such a master plan of non-formal education would be ideal. But few countries are able to undertake so comprehensive and time-consuming a task.

The more realistic approach is probably a sector-by-sector analysis, concentrating selectively on a relatively small number of clearly defined but strategic leverage points for investigation and effort. The possible leverage points are many, and they would differ from country to country. Here, a framework for analysis may be useful, and a few examples may clarify possible approaches.

In some cases non-formal education performs unique functions which lie completely beyond the reach of formal schooling. In others, the non-formal activities may be an alternative to or substitute for learning in the graded school curricula. In most cases, perhaps, non-formal and formal education may be complementary and re-inforcing. Here, the benefits accruing from effective integration of the non-formal systems may be greater than the sum of the individual returns to each.

In examining non-formal education planners should pose central questions such as these:

1. Can non-formal education activities satisfy educational needs which cannot be met by the formal education system?

2. Are non-formal education projects, because of their flexibility in comparison with the rigidities of formal education, more susceptible to innovation?

3. Do successful innovations in non-formal education induce desirable innovations in the formal education system?

4. To what extent, if any, do non-formal education activities have better ratios of cost-effectiveness than formal education?

It is very difficult to answer such questions. However, they do show clearly the need for incorporation of evaluation mechanisms in present

and future programs. The "tracing" of the participants in all programs would, in itself, help to provide at least partial answers.

Unique functions of non-formal education

Unskilled and semi-skilled workers in factories or construction are most easily trained on-the-job. The skill and knowledge of farmers are best generated through extension and/or farmer training centers. Almost by definition, adult literacy programs are beyond the range of age-specific, graded schooling. The same is true of nutrition, health, or family planning education. In this general area, the leverage points are to be found in better organization, coordination, and direction of related activities.

A plan for development of rural adult education centers in Kenya is a good example. Here the Board of Adult Education, in collaboration with the Ministries of Cooperatives, Social Services, Agriculture, Health, Commerce and Industry, Information and Broadcasting, Local Government, and Economic Planning and Development, has evolved a concrete blueprint for multi-purpose training centers at the district level which will provide facilities to both government and voluntary agencies to plan, integrate, and implement a number of related adult education activities. The centers, each with a resident director and staff, will determine priorities, coordinate rural educational activities at the district and sub-district levels, and facilitate the execution of programs. They would provide for maximum involvement of the local community in building programs directly related to the Special Rural Development Projects which are being established as an outgrowth of the Kericho Conference. They would thus constitute the apex of all rural extension and non-formal educational activity. This plan, essentially an extension of the farmer training center concept, raises many practical problems of inter-agency cooperation. But at least it is an attempt to rationalize the delivery of much needed rural services.

Non-formal education as an alternative to formal schooling

The training of craftsmen for modern sector activity poses another set of problems. For the most part, electricians, carpenters, masons, fitters, and automobile mechanics are trained in employment, either through

apprenticeship arrangements or by some less formal means of learning on the job. But they can also be produced under a graded curriculum in formal vocational schools. Many ministries of education have attempted to "vocationalize" their secondary school systems either by building more technical schools or by establishing "comprehensive" secondary schools with vocational streams. Here the assumption is that craftsmen, foremen, and even technicians are best produced in a formal system. The area of greatest leverage for development planners lies in a careful analysis of the trade-offs and the optimal mixes between the two systems.

The training of automobile mechanics, as a typical case, illustrates the range of possible choices. In all developing countries there is a shortage of automobile mechanics in the sense that there are unfilled jobs at prevailing wage levels. Most young people learn the trade as apprentices in small garages and shops as described by Callaway.[1] The indigenous apprenticeship system could be improved by organizing training extension services to the garage owners, as well as by organized off-duty training classes in the principal towns or cities. The major distributors of automobiles and trucks are better producers of mechanics. They could be required, or encouraged by subsidies, to train a surplus beyond their immediate need in their own service department. Pre-employment formal training in vocational schools is another, and probably the most expensive, alternative. Combinations of all three avenues of training might in the end provide the most effective solution.

The training of building craftsmen presents a similar range of alternatives. The central problem is not what should be learned, nor even the techniques of teaching. The critical issue is the organization of training activity and allocation of responsibility for carrying it out. In most developing countries, the ministries of education, the labor departments, and the employing institutions pursue their independent courses, often at cross purposes. Perhaps only in the ministries of planning is there hope of building a strategy for a rational allocation of resources.

The organization of "training pools" has great potential as a leverage device. Here groups of employers may pool resources to provide common training services to meet their common needs. In the Latin American countries a tax

1. Archibald Callaway, "Nigeria's Indigenous Education: The Apprenticeship System," ODU, Vol. 1, Number 1, July 1964. pp. 67-69.

levy on payrolls of all employers above a specified size provides ample funds to support central training organizations which provide both institutional and on-the-job training services. Many African and Asian countries are now considering various kinds of employer tax levy schemes as means of financing and organizing non-formal training activities for modern sector industrial and commercial enterprises. Training pools have very important advantages: They are extremely effective in tapping funds for training beyond the resources allocated by governments for formal education. They provide services more closely related to employer needs than formal vocational schools. They place responsibility on employing institutions for the training function. And in many, though not all, cases they can provide services at relatively low costs. It is quite possible, indeed, that training pool systems, as an alternative to formal vocational schools, may become the centerpieces for training semi-skilled and skilled craftsmen in many developing countries.

There are, of course, other possibilities in most countries. The Mobile Trade Training Unit System in Thailand is one example.[2] Another is to force, or to induce by subsidy, large corporations to train craftsmen beyond their own needs. Our argument is that, in nearly every developing country, there are alternatives to formal education which should be carefully investigated.

Non-Formal education as an improvement-factor in formal education

Non-formal education has great potential for improving the formal education system. It can magnify those benefits which accrue from formal schooling, and in many cases it may lead to changes in the orientation of schools, technical institutions, and universities. The closer integration of non-formal and formal education may in the long run win the highest returns of all programs for human resource development. The list of possible leverage points is almost endless, but a few of the more obvious are mentioned here.

Technician training requires both theoretical education and practical experience. Shared-time arrangements between working on-the-job training

2. Vocational Education Department, Ministry of Education, Mobile Trade Training Units, 1969 Report, Bangkok, Thailand.

and formal instruction in technical institutions are proving to be effective in many countries. An outstanding example is the Kenya Polytechnical Institute where all students are sponsored by their employers. At the Haile Selassie I University in Ethiopia all students are required to spend one university service year doing practical work in government offices, schools, or business enterprises. In other cases, university students may serve internships as research workers on development programs. Many countries require secondary school or university graduates to serve time in national service. In others, youth brigades are set up to provide practical re-training for school dropouts. Most of these programs, to be sure, have shortcomings both in orientation and practical organization, but with better planning and implementation, they may have great potential for the generation of more development-oriented, high level manpower.

Perhaps the most productive area of all for better integration of formal and non-formal education is development of more effective cadres of rural service workers. Agricultural extension assistants, suppliers of rural inputs (fertilizer, seeds, tools, etc.), cooperative managers, and marketing experts all require considerable pre-employment formal education. At the same time, they need refresher training, information about changing technologies and markets, exchange of experience in "teaching" farmers, and other kinds of continuing skill and knowledge development. Here, non-formal education, which can build upon the formal, may have the highest payoff of any program of rural development. Yet, by and large, the universities have neglected this function. Ministries may have inadequate resources to perform it. Thus, new organizations or the revitalization of old ones are worth serious consideration.

Summary

In summary, the range of activities in non-formal education is vast. The resources already invested in them are very considerable in the aggregate. Their contribution to national development is far-reaching. In some cases, non-formal education is the only practical means of skill and knowledge development; in others, it offers an alternative, and often a more effective one, to education and training than formal schooling; in most cases, it can supplement, extend, and improve the processes of formal education. The formulation of a

strategy for development of non-formal education is no easy task. An initial step would be to identify the principal target groups, to specify the actual and possible roles of both formal and non-formal education in their development, to evaluate alternatives, and to select "leverage points" where more concentrated efforts would have the highest payoffs. The cost-effectiveness of these efforts should be objectively analyzed by systematic tracing of the employment and career pathways of persons who have participated in the various programs.

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